CLAIMS OF THE APPLICATION

Attached is a complete listing of all claims in ascending numerical order. Each claim has been provided with the proper status identifier.

Claim 1. (canceled)

Claim 2. (canceled)

Claim 3. (canceled)

Claim 4. (amended) The electro-mechanical energy conversion system of ~~Claim 3 wherein~~ Claim 19 wherein the input and output switches are programmed to operate as a charge pump to provide ~~the high switch sample rates (time repetitive duration)~~ a high switch sample rates to transfer charge at high power and high frequency and to charge pump sequence to provide the required input to output voltage gain at the reduced PMG rotation rates.

Claim 5. (amended) The electro-mechanical energy conversion system of ~~Claim 3 wherein~~ Claim 19 wherein the input switches from each phase is energized in a timed pattern so that the phase AC input is processed by charge transfer directly to a corresponding phase output thereby eliminating the rectification and DC link required with PWM conversion.

Claim 6. (amended) The electro-mechanical energy conversion system of ~~Claim 3 wherein~~ Claim 19 wherein the input and the desired charge transfer conditions to perform soft-start and rapid shut-down of current flow.

Claim 7. (amended) The electro-mechanical energy conversion system of ~~Claim 3 wherein the series resonant link~~ Claim 19 wherein said resonant transfer link provides electrical isolation at above and below ~~the resonant link~~

said resonant transfer link resonating frequency and whereby the control of the input switches and output switches are driven with a timing pattern and sequence to provide the volt-amps reactance to the three phase load during the fault disturbance.

Claim 8. (amended) The electro-mechanical energy conversion system of ~~Claim 1 wherein~~ Claim 19 wherein said resonant transfer link is bi-directional

Claim 9. (amended) The electro-mechanical energy conversion system of ~~Claim 1 further~~ Claim 19 further includes an isolation element is coupled between said plurality of stator control elements and said plurality of rotor control elements

Claim 10. (original) The electro-mechanical energy conversion system of Claim 9 wherein said isolation element comprises a transformer.

Claim 11. (amended) The electro-mechanical energy conversion system of Claim 8 wherein the energy transfer device further includes a stator ground energy transfer control element and a second ground energy transfer control element coupled to ~~ground on either side~~ ground on each side of said bi-directional resonant transfer link.

Claim 12. (amended) The electro-mechanical energy conversion system of Claim 11 wherein ~~the four input switches~~ said input switches are time sequenced is a timing pattern to allow each phase of the generator to supply

sinusoidal current at the desired generator power factor and sequencing the output switch to supply sinusoidal current at the power factor requested by the AC grid.

Claim 13. (amended) The electro-mechanical energy conversion system of ~~Claim 1 wherein~~ Claim 19 wherein the voltage for each said stator energy transfer control element and each said output phase is interrogated to determine whether or not power for phases on said stator and for phases on said output are within a predetermined range of the predetermined reference level.

Claim 14. (original) The electro-mechanical energy conversion system of Claim 13 wherein when the initial charge V_{CS} is greater than the output voltage E_O, the input voltage E_I is connected to the output voltage E_O.

Claim 15. (canceled)

Claim 16. (canceled)

Claim 17. (canceled)

Claim 18. (canceled)

Claim 19. (new) An electro-mechanical energy conversion system to convert and transfer energy from an input energy source to an output energy load comprising an energy converter device coupled between the input energy

source and the output energy load to receive and to convert energy from the input energy source and to transfer the converted energy to the output energy load and an energy conversion and transfer control operatively coupled to said energy converter device to control the conversion of energy from the input energy source and energy transfer to the output energy load by said energy converter device in response to a plurality of predetermined conditions, said energy converter device comprising an energy converter section including a permanent magnet machine having a rotor and stator to convert the energy from the input energy source and to selectively transfer the converted energy to the output energy load and an energy transfer section including a plurality of stator control elements coupled to said stator and a plurality of rotor control elements coupled to said rotor of said permanent magnet machine, said plurality of stator control elements and said plurality of rotor control elements operatively coupled by a resonant transfer link to transfer energy between said stator and the rotor to control the operation of said permanent magnet machine and wherein said energy conversion and transfer control comprises an energy converter control to control the operation of said energy converter device and a source/load control to control the operation of the input energy source and output energy load with respect to said energy converter device wherein each said stator energy transfer control element comprises a switch coupled to each phase of said stator of said permanent magnet machine.